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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,994	06/29/2001	Jong Jin Park	49128-5019	5674

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

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DATE MAILED: 09/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,994

Applicant(s)

PARK ET AL.

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11-22 is/are rejected.
- 7) ☒ Claim(s) 5-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 11 recites the limitation "the current frame" and "the next frame" in page 24, lines 1 and 4. There is insufficient antecedent basis for this limitation in the claim.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 10/025,906 (Park et al.). Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference between claims in the two applications is applying first to third gate output enable signals to the gate driver. In claims of

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compending application No. 10/025,906 does not specifically teach applying first to third gate output enable signals to the gate driver. However, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to obtain applying first to third gate output enable signals to the gate driver in order to control output of gate driver and to improve the image quality.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by over Matsumoto et al. (U.S. Patent No. 5,365,284).

Regarding claim 11, referring to Figs. 2-4, Matsumoto teaches a method of driving a liquid crystal display that is driven frame by frame, comprising the steps of: displaying a first picture (a-a') on a liquid crystal display panel (1) in current frame (i.e., odd frame); displaying a specific pattern of picture (i.e., reference character) on the liquid crystal display panel (1) on which said picture has been displayed; and displaying a second picture (b-b') over the specific pattern (i.e., reference character) of picture in next frame (i.e., even frame) (from col. 10, line 10 to col. 11, line 46).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-4, 13, 14, 16, 18, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. (U.S. Patent No. 5,365,284) in view of prior art Figs 2 and 3, cited by Applicant.

Regarding claims 1, 13, and 18, referring to Fig. 1 and 2, Matsumoto teaches a method of driving a liquid crystal display including a liquid crystal display panel (1) having pixels (7) arranged in a matrix form, a gate driver (3) for applying a scanning signal to gate lines (5) of the liquid crystal display panel (1), and a data driver (2) for supplying a picture data to data lines (4) of the liquid crystal display panel (1), the method comprising the steps of: applying a clock pulse (i.e., clock signal) to the gate driver (3); and applying a scanning pulse to two gate lines (5) during one period of the clock pulse (from col. 9, line 1 to col. 11, line 46, from 12, line 43 to col. 14, line 68).

Matsumoto differs from claims 1, 13, and 18 in that he does not specifically teach applying first to third gate output enable signals to the gate driver. However, the prior art Figs. 2 and 3 teaches applying first to third gate output enable signals (GOE1-GOE3) to the gate driver (6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the applying first to third gate output enable signals to the

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gate driver as taught by Prior art Figs. 2 and 3 in the system of Matsumoto in order to control output of gate driver and to improve the image quality.

Regarding claims 2 and 3, Matsumoto further teaches the data driver (2) supplies the picture data (a-a') to the data lines (4) when the scanning pulse is applied to a first gate line (5) of the two gate lines, and supplies a black data (i.e., interpolating signal) to the data lines (4) when the scanning pulse is applied to a second gate line (5) of the two gate lines (from col. 10, line 10 to col. 11, line 46).

Regarding claims 4 and 16, the combination of Matsumoto and prior art Figs 2 and 3 teaches the first gate output enable signal (GOE1) is applied to each of the $(3i+1)$ th gate lines (GL1, GL4), the second gate output enable signal (GOE2) is applied to each of the $(3i+2)$ th gate lines (GL2, GL5), and the third gate output enable signal (GOE3) is applied to each of the $(3i+3)$ th gate lines (GL3, GL6), where i is a non-negative integer.

Regarding claims 14 and 21, the combination of Matsumoto and prior art Figs 2 and 3 further teaches the gate lines (5) are divided into two groups of odd numbered gate lines and even numbered gate lines, as numbered from the top to the bottom of the display panel (1) (from col. 10, line 10 to col. 11, line 46).

Regarding claim 19, Matsumoto further teaches the reference signal is the same for all rows of pixels and for each frame (col. 11, lines 1-45).

10. Claims 12, 15, 17, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. (U.S. Patent No. 5,365,284) in view of prior art Figs 2 and 3, cited by Applicant and further in view of Taguchi et al. (U.S. Patent No. 6,181,317).

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Regarding claims 12, 15, 17, 20, and 22, the combination of Matsumoto and prior art Figs. 2 and 3 differs from claims 12, 15, 17, 20, and 22 in that it does not specifically teach the reference signal is a black signal. However, referring to Figs. 35, 42, and 43, Taguchi teaches reference signal is a black signal (col. 13, lines 5-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the reference signal is a black signal as taught by Taguchi in the system of the combination of Matsumoto and the prior art Figs. 2 and 3 in order to improve the image quality.

11. Claims 5-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shiraki et al. (U.S. Patent No. 5,844,538) teaches active matrix-type image display apparatus controlling writing of display data with respect to picture elements.

Kim et al. (U.S. Patent No. 6,229,516) teaches display a driving circuit and a driving method thereof.

Matsumoto et al. (U.S. Patent No. 5,206,634) teaches liquid crystal display apparatus.

Takahara et al. (U.S. Patent No. 6,545,653) teaches method and device for displaying image signals and viewfinder.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**. The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231

Or faxed to: 703-872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

Jennifer T. Nguyen
09/15/2003
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**RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**